

A PRELIMINARY NOTE ON THE FOOD OF *IMBLATTELLA ORCHIDAE* ASAHINA (BLATTODEA: BLATTELLIDAE)

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*CSIRO, Division of Entomology, GPO Box 1700, Canberra, A.C.T., 2601***Abstract**

Examination of gut contents of *Imblattella orchidae* Asahina showed that the species is predominantly herbivorous, taking a range of plant material including pollen, fungal hyphae and plant tissue. Further research is needed to clarify its food and feeding preferences.

Introduction

Imblattella orchidae, the orchid cockroach, was first reported in Australia in 1985 (Rentz 1987). At present its exact distribution and country of origin are uncertain, although it is thought to have been introduced into Australia from Japan (Asahina 1985, Rentz 1987). To date it has only been recorded from orchids and (as shown in this study), other tropical plants under greenhouse conditions. It is as yet unknown from the field.

Its appearance in Australia caused concern among orchid-growers who feared the species would damage growing plants. However to date no evidence has come to light to suggest that *I. orchidae* causes any significant damage to the plants with which it is associated.

Observations and discussion

Fifteen adult and late instar nymphs of *I. orchidae* were collected from two glasshouses in Canberra, A.C.T., one containing orchids and other tropical plants at the National Botanical Gardens (NBG), the other containing orchids only, at Spence, a Canberra suburb.

The specimens were dissected and their mid- and hind-gut contents slide-mounted in glycerine and examined microscopically. Eight (four from each locality) contained identifiable gut contents. Only plant material was detected, along with some indeterminate inorganic material. Specimens from the NBG contained spores and pollen (identified by Dr J. Owen, Department of Biogeography and Geomorphology, Australian National University, Canberra), from club mosses (? *Lycopodium* spp.) and ferns (*Polypodium* sp.), from palms (including *Pandanus* sp.), orchids and an unidentified myrtaceous plant (Myrtaceae), with fungal hyphae and unidentifiable higher plant tissue also present. The specimens from Spence contained no pollen or spores (some plants in this glasshouse were flowering at the time the insects were collected, J.S. Rickard, pers

comm.) or fungal material, only indeterminable higher plant tissue and inorganic matter. Other material was also present, although it was too well digested to allow for identification.

The above data suggest that *I. orchidae* is predominantly herbivorous and somewhat opportunistic and with no apparent food preferences, although the available data are too limited to allow any firm conclusions to be drawn. Its association with orchids may not be as close as first thought; the specimens from the NBG were collected from ferns (*Platycerium* sp., *Angiopteris* sp.) as well as orchids and certainly *I. orchidae* does not appear to restrict its feeding activities to orchids. Rather, the conditions under which these and other tropical plants are grown (i.e. warm temperatures, high humidity), and the presence of abundant food and water, provide an ideal environment for *I. orchidae* which it seems to occupy in much the same way as other introduced Blattodea (e.g. *Periplaneta* L. and *Blatta* L.), do domestic buildings. However it does not yet appear to warrant pest-status as these species do.

It would be of interest, once the origins of this species are known, to examine its diet and habitat preferences in a natural state. This would also serve to help clarify aspects of its biology in the "artificial niche" it is presently known to occupy.

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